CLAIMS

I claim:

1. An optical communication system having adjustable operational settings to accommodate a plurality of modes of operation, the system comprising:

a controller adapted to communicate an indicator signal based on a selected mode of operation; and

a transimpedance amplifier having at least one adjustable operational setting, the transimpedance amplifier in communication with the controller for receiving the indicator signal and configured to adjust the at least one adjustable operational setting based on the indicator signal.

2. The system of claim 1, wherein the transimpedance amplifier comprises:

a mode detection module adapted to receive the indicator signal and determine a mode of operation based on the indicator signal; and

a settings control module in communication with the mode detection module, the settings control module coupled to the transimpedance amplifier circuit for adjusting at least one of the adjustable components based on the determined mode of operation.

3. The system of claim 2, wherein the mode detection module determines the mode of operation by comparing the indicator signal to one or more reference voltages.

4. The system of claim 2, wherein the mode detection module receives the indicator signal during a non-operational period of the transimpedance amplifier.

5. The system of claim 2, wherein the indicator signal is a digital signal, and the mode detection module includes digital circuitry for determining the mode of operation.

6. The system of claim 2, wherein the mode detection module determines the mode of operation by demodulating the indicator signal from a voltage input received from an external source.

7. The system of claim 2, wherein the mode detection module comprises means for detecting the mode of operation based on the indicator signal.

8. The system of claim 1, wherein the controller is configured to receive information related to the mode of operation for the transimpedance amplifier, the controller including an indicator generator for generating the indicator signal based on the mode of operation.

9. The system of claim 8, wherein the controller further includes a digital to analog converter for generating an analog indicator signal.

10. The system of claim 1, wherein the transimpedance amplifier includes a bias voltage interface for receiving a bias voltage, the controller communicating the indicator signal to the transimpedance amplifier as a bias voltage through the bias voltage interface.

11. The system of claim 10, wherein the indicator signal is within a permissible range of bias voltages for the transimpedance amplifier, the mode detection module determining the mode of operation by comparing the indicator signal to one or more reference voltages.

12. The system of claim 1, wherein at least one adjustable operational setting is transimpedance gain.

13. The system of claim 1, wherein at least one adjustable operational setting is bandwidth.

14. The system of claim 1, wherein at least one adjustable operational setting is selected from a group consisting of: DC offset, signal rise time, signal fall time, power consumption, and output impedance.

15. A transimpedance amplifier having adjustable operational settings, the transimpedance amplifier comprising:

an electrical interface for coupling to a receive diode;

a transimpedance amplifier circuit in communication with the electrical interface for converting a current from the receive diode into an output voltage, the transimpedance amplifier circuit including one or more adjustable components, the adjustment of which affects at least one operational setting of the transimpedance amplifier; and

a settings control module coupled to the transimpedance amplifier circuit for adjusting at least one of the adjustable components.

16. The transimpedance amplifier of claim 15, further comprising:

a mode detection module adapted to determine a mode of operation for the transimpedance amplifier, the mode detection module coupled to the settings control module for communicating the determined mode of operation, wherein the settings control module adjusts at least one of the adjustable components based on the determined mode of operation.

17. The transimpedance amplifier of claim 16, wherein the mode detection module is adapted to receive an indictor signal and determines the mode of operation based on the indicator signal.

18. The transimpedance amplifier of claim 16, further comprising:

a bias voltage interface coupled to provide the transimpedance amplifier circuit with a bias voltage, the bias voltage interface further coupled to communicate the indicator signal to the mode detection module.

19. The transimpedance amplifier of claim 18, wherein the bias voltage interface provides the transimpedance amplifier circuit with a diode bias voltage for the receive diode.

20. The transimpedance amplifier of claim 15, wherein at least one of the adjustable components includes a means for adjusting the transimpedance gain of the transimpedance amplifier.

21. The transimpedance amplifier of claim 15, wherein at least one of the adjustable components includes a means for adjusting the bandwidth of the transimpedance amplifier.

22. The transimpedance amplifier of claim 15, wherein at least one of the adjustable components includes a means for adjusting the an operational setting selected from a group consisting of: DC offset, signal rise time, signal fall time, power consumption, and output impedance.

23. A transimpedance amplifier having one or more operational settings that are adjustable based on a mode of operation for an associated optical communication system, the transimpedance amplifier comprising:

means for receiving an indicator associated with the mode of operation;

means for detecting the mode of operation based on the indicator; and

means for adjusting at least one operational setting of the transimpedance amplifier based on the detected mode of operation.

24. The transimpedance amplifier of claim 23, wherein at least one adjustable operational setting is selected from a group consisting of: transimpedance gain, bandwidth, DC offset, signal rise time, signal fall time, power consumption, and output impedance.

25. A method for adjusting an operational setting of a transimpedance amplifier based on a mode of operation for an associated optical communication system, the method comprising:

receiving an indicator associated with the mode of operation;

detecting the mode of operation based on the indicator; and

adjusting at least one operational setting of the transimpedance amplifier based on the detected mode of operation.

26. The method of claim 25, wherein the indicator is received as a bias voltage for the transimpedance amplifier.

27. The method of claim 26, wherein the mode of operation is detected by comparing the received indicator to at least one reference voltage.

28. The method of claim 26, wherein the mode of operation is associated with a selected protocol.

29. The method of claim 26, wherein the mode of operation is associated with a data rate.

30. The method of claim 26, wherein at least one adjusted operational setting is transimpedance gain.

31. The method of claim 26, wherein at least one adjusted operational setting is bandwidth.

32. The method of claim 26, wherein at least one adjusted operational setting is selected from a group consisting of: DC offset cancellation, signal rise time, signal fall time, power consumption, and output impedance.